

FIG. 1

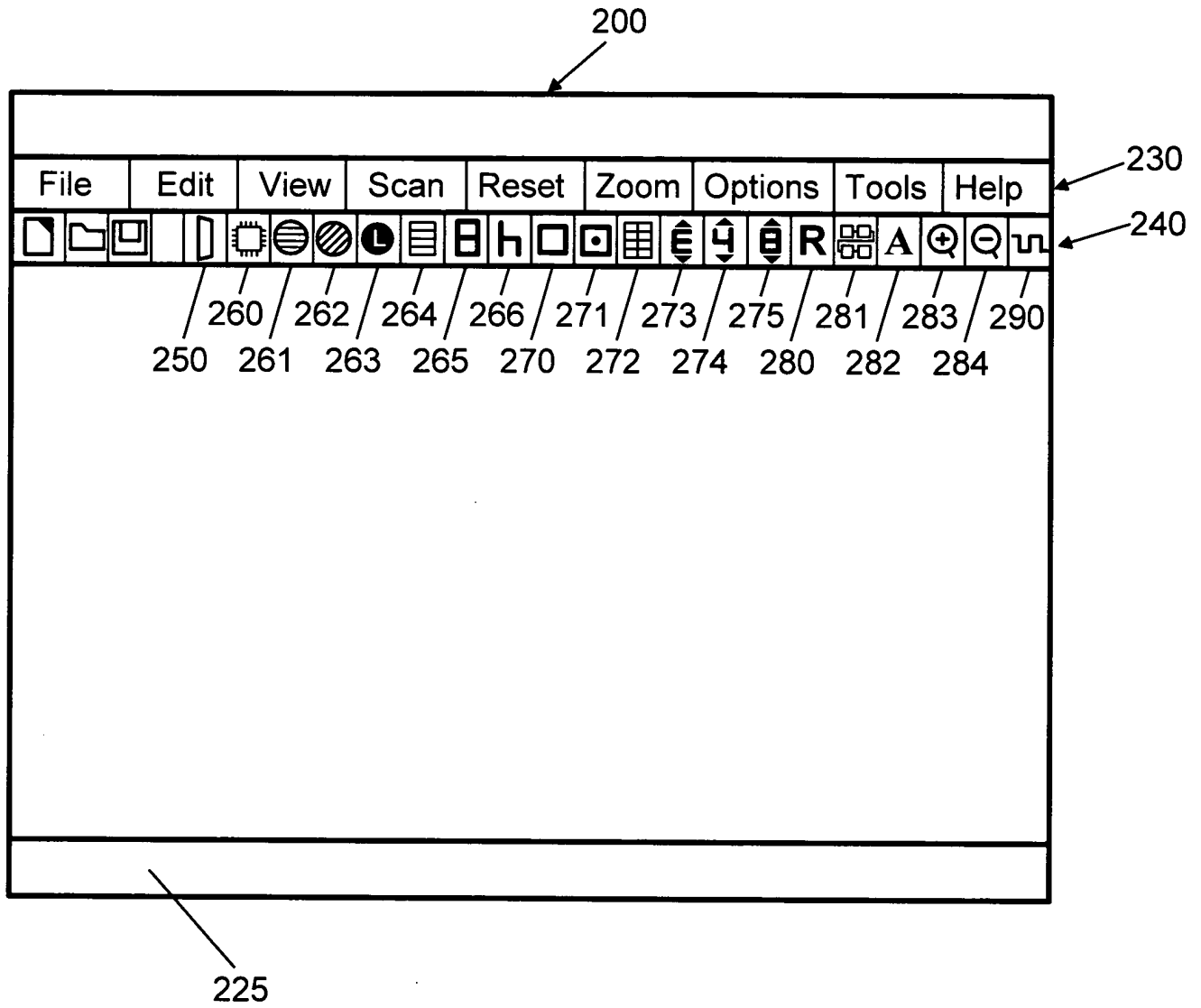


FIG. 2

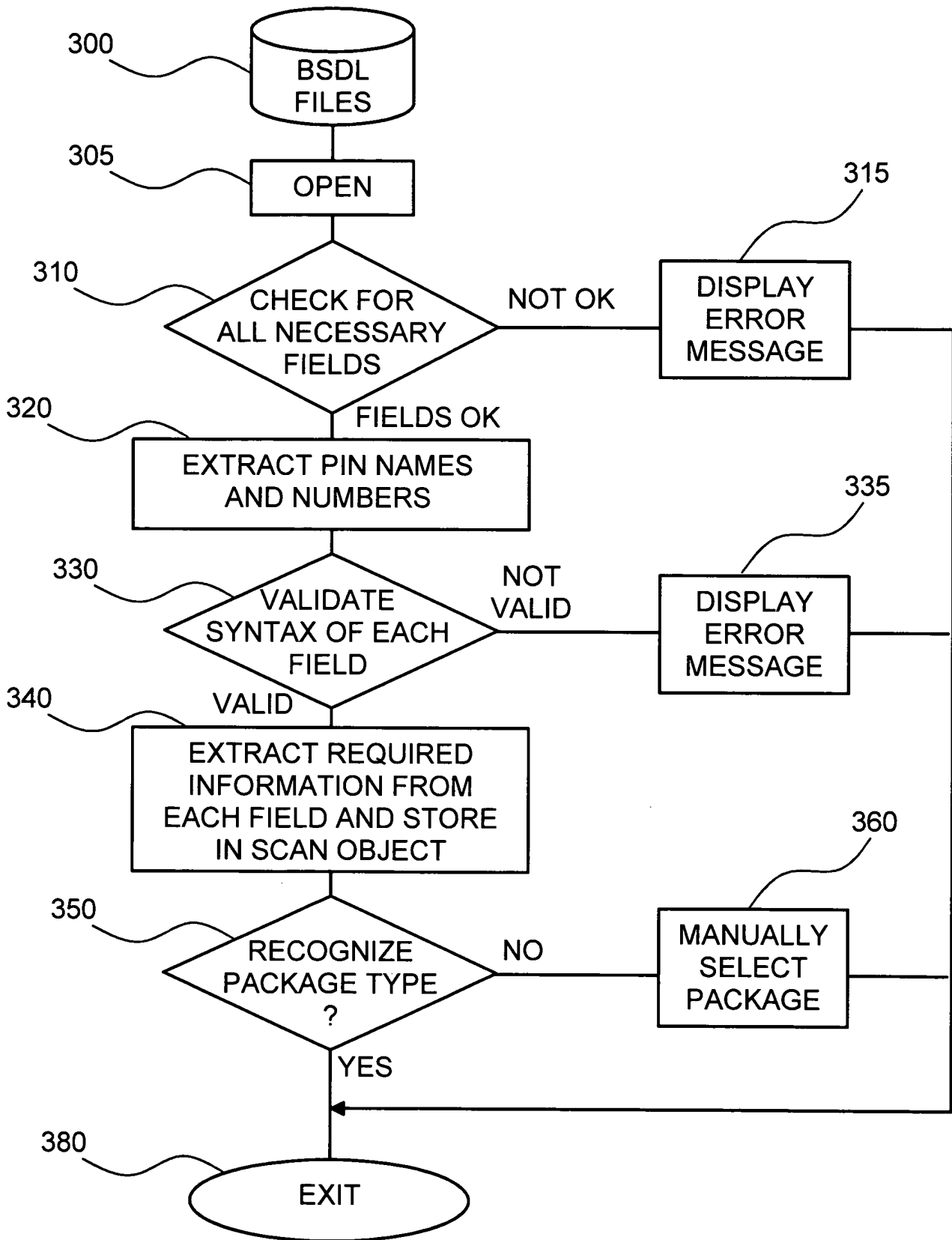


FIG. 3

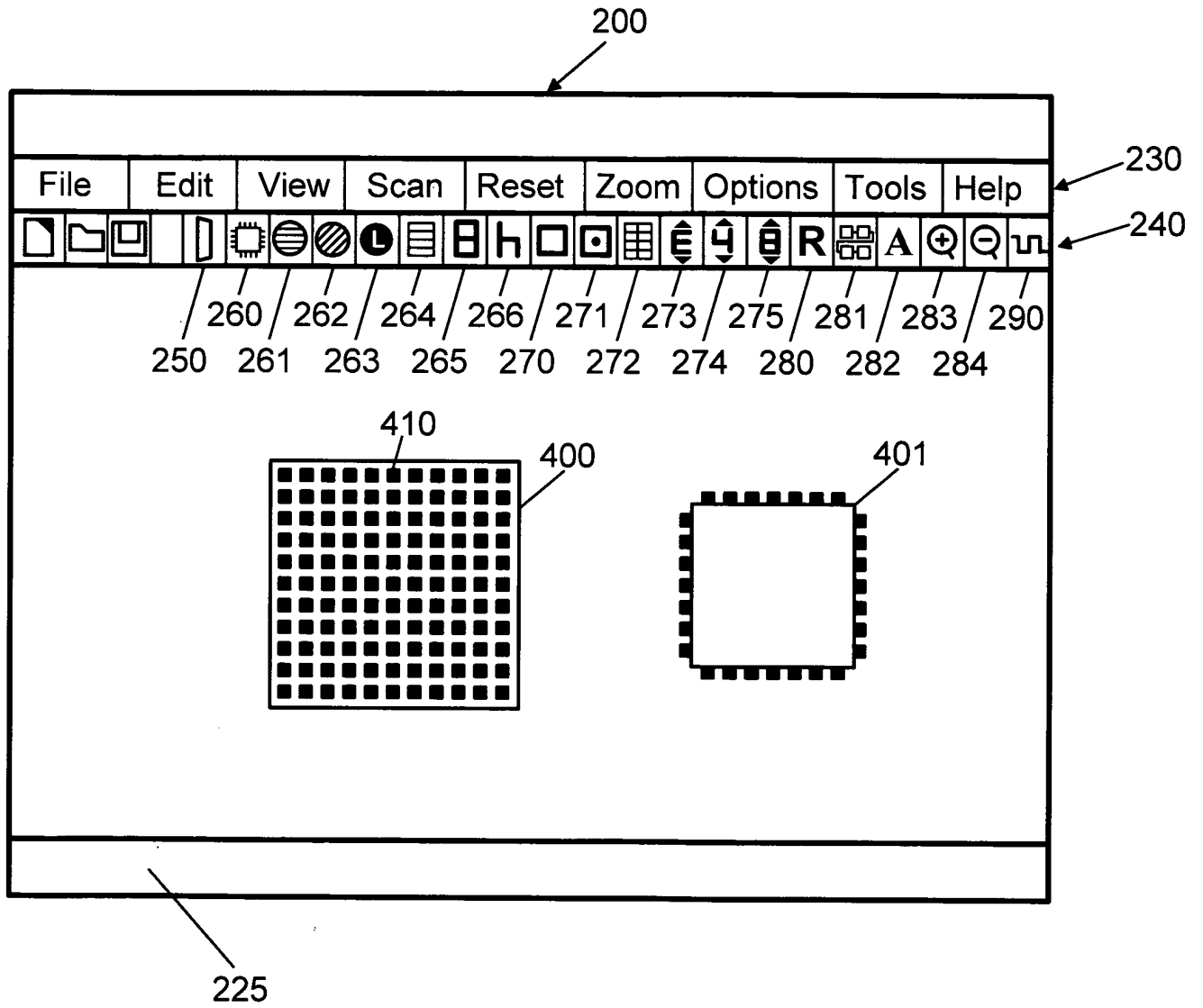


FIG. 4

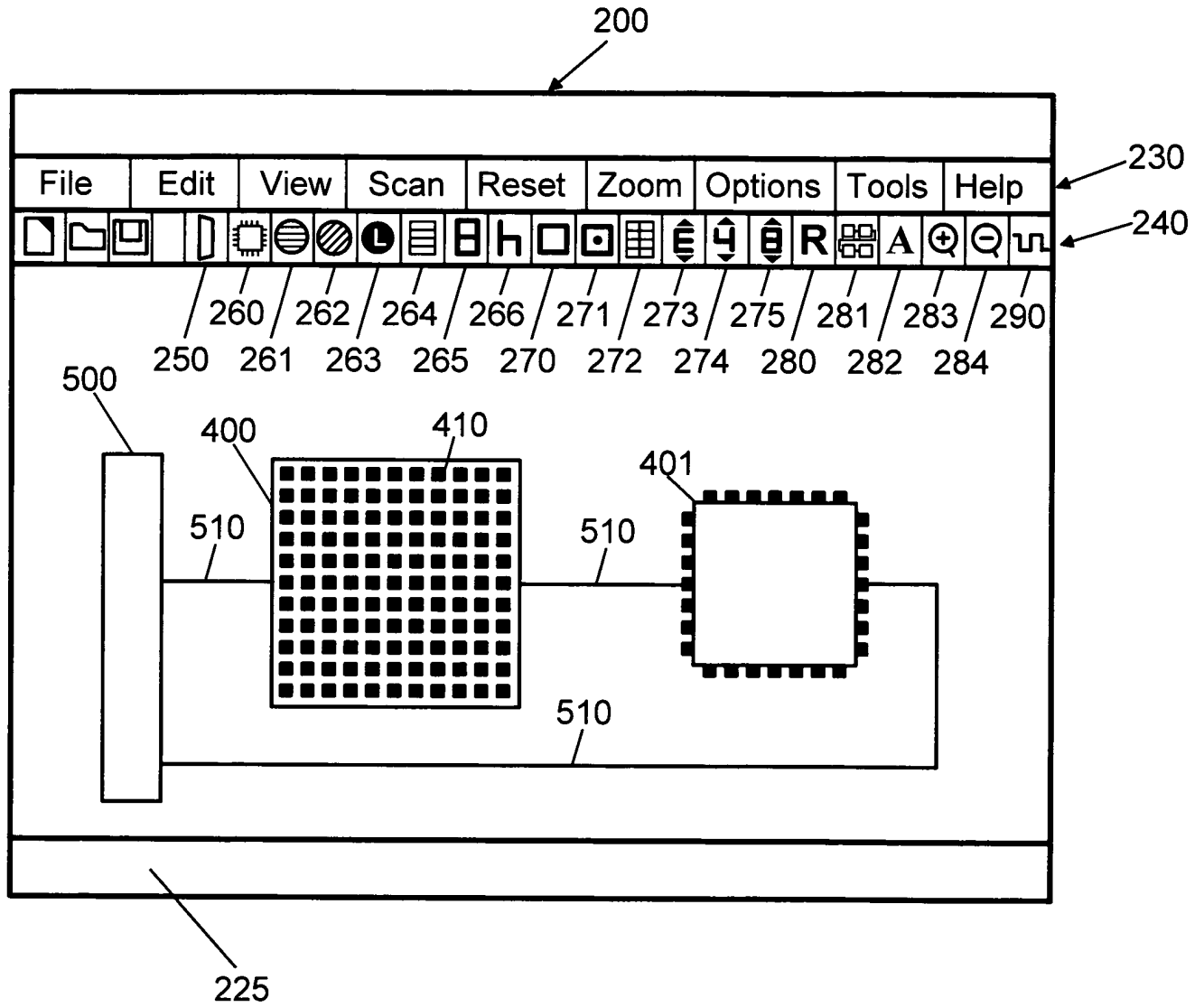


FIG. 5

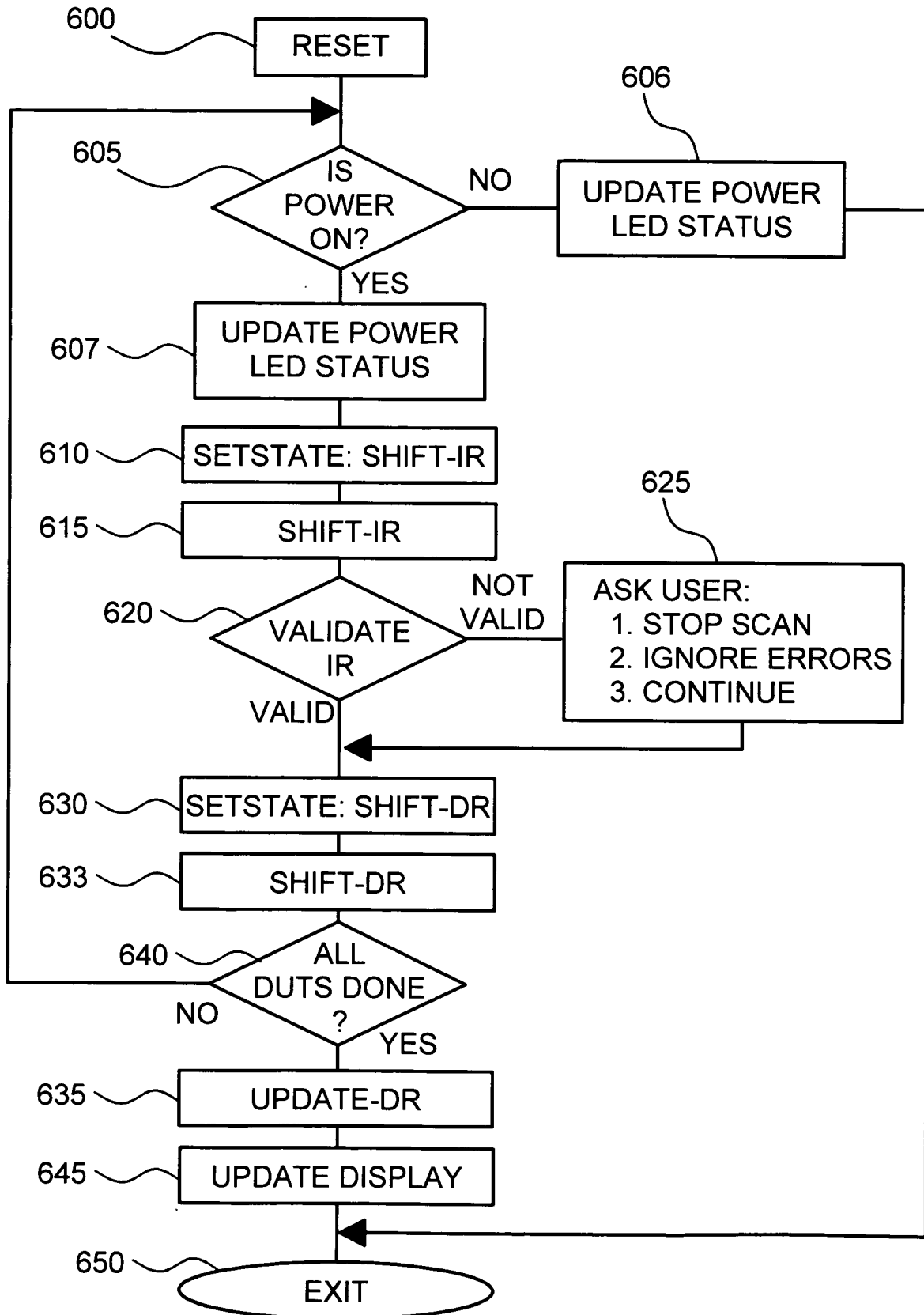
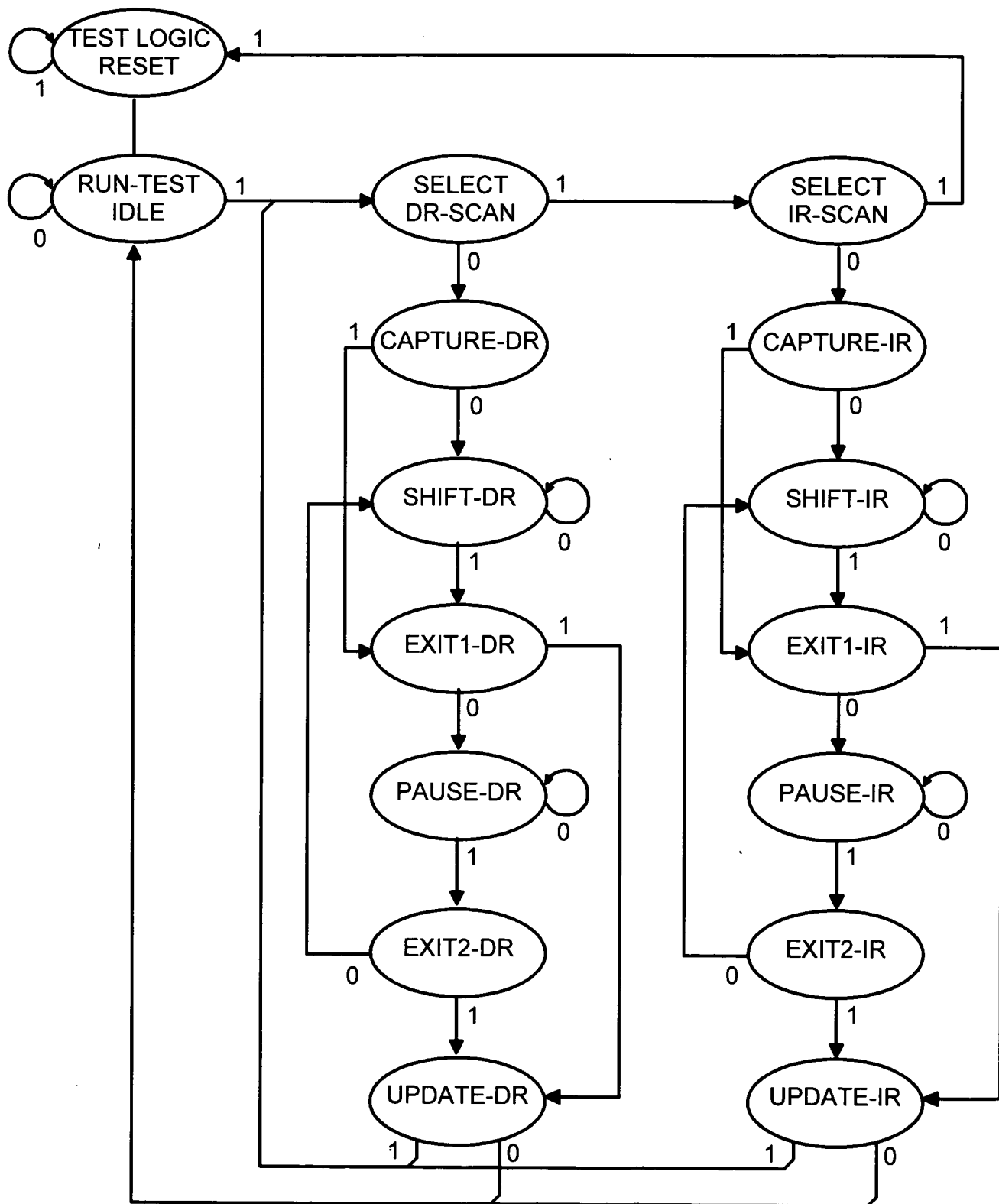


FIG. 6



(PRIOR ART)
FIG. 7

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static int Reset_Reset[]      = { 1, -1 } ;
static int Reset_Idle[]       = { 0, -1 } ;
static int Reset_SelectDR[]   = { 0, 1, -1 } ;
static int Reset_CaptureDR[]  = { 0, 1, 0, -1 } ;
static int Reset_ShiftDR[]    = { 0, 1, 0, 0, -1 } ;
static int Reset_Exit1DR[]    = { 0, 1, 0, 1, -1 } ;
static int Reset_PauseDR[]    = { 0, 1, 0, 1, 0, -1 } ;
static int Reset_Exit2DR[]    = { 0, 1, 0, 1, 0, 1, -1 } ;
static int Reset_UpdateDR[]   = { 0, 1, 0, 1, 1, -1 } ;
static int Reset_SelectIR[]   = { 0, 1, 1, -1 } ;
static int Reset_CaptureIR[]  = { 0, 1, 1, 0, -1 } ;
static int Reset_ShiftIR[]    = { 0, 1, 1, 0, 0, -1 } ;
static int Reset_Exit1IR[]    = { 0, 1, 1, 0, 1, -1 } ;
static int Reset_PauseIR[]    = { 0, 1, 1, 0, 1, 0, -1 } ;
static int Reset_Exit2IR[]    = { 0, 1, 1, 0, 1, 0, 1, -1 } ;
static int Reset_UpdateIR[]   = { 0, 1, 1, 0, 1, 1, -1 } ;

static int Idle_Reset[]       = { 1, 1, 1, -1 } ;
static int Idle_Idle[]        = { 0, -1 } ;
static int Idle_SelectDR[]    = { 1, -1 } ;
static int Idle_CaptureDR[]   = { 1, 0, -1 } ;
static int Idle_ShiftDR[]     = { 1, 0, 0, -1 } ;
static int Idle_Exit1DR[]     = { 1, 0, 1, -1 } ;
static int Idle_PauseDR[]     = { 1, 0, 1, 0, -1 } ;
static int Idle_Exit2DR[]     = { 1, 0, 1, 0, 1, -1 } ;
static int Idle_UpdateDR[]    = { 1, 0, 1, 1, -1 } ;
static int Idle_SelectIR[]    = { 1, 1, -1 } ;
static int Idle_CaptureIR[]   = { 1, 1, 0, -1 } ;
static int Idle_ShiftIR[]     = { 1, 1, 0, 0, -1 } ;
static int Idle_Exit1IR[]     = { 1, 1, 0, 1, -1 } ;
static int Idle_PauseIR[]     = { 1, 1, 0, 1, 0, -1 } ;
static int Idle_Exit2IR[]     = { 1, 1, 0, 1, 0, 1, -1 } ;
static int Idle_UpdateIR[]    = { 1, 1, 0, 1, 1, -1 } ;

```

FIG. 8a


```

static int SelectDR_Reset[]      = { 1, 1, -1 } ;
static int SelectDR_Idle[]       = { 0, 1, 1, 0, -1 } ;
static int SelectDR_SelectDR[]   = { 0, 1, 1, 1, -1 } ;
static int SelectDR_CaptureDR[]  = { 0, -1 } ;
static int SelectDR_ShiftDR[]    = { 0, 0, -1 } ;
static int SelectDR_Exit1DR[]    = { 0, 1, -1 } ;
static int SelectDR_PauseDR[]    = { 0, 1, 0, -1 } ;
static int SelectDR_Exit2DR[]    = { 0, 1, 0, 1, -1 } ;
static int SelectDR_UpdateDR[]   = { 0, 1, 1, -1 } ;
static int SelectDR_SelectIR[]   = { 1, -1 } ;
static int SelectDR_CaptureIR[]  = { 1, 0, -1 } ;
static int SelectDR_ShiftIR[]    = { 1, 0, 0, -1 } ;
static int SelectDR_Exit1IR[]    = { 1, 0, 1, -1 } ;
static int SelectDR_PauseIR[]    = { 1, 0, 1, 0, -1 } ;
static int SelectDR_Exit2IR[]    = { 1, 0, 1, 0, 1, -1 } ;
static int SelectDR_UpdateIR[]   = { 1, 0, 1, 1, -1 } ;

static int CaptureDR_Reset[]     = { 1, 1, 1, 1, 1, -1 } ;
static int CaptureDR_Idle[]      = { 1, 1, 0, -1 } ;
static int CaptureDR_SelectDR[]  = { 1, 1, 1, -1 } ;
static int CaptureDR_CaptureDR[] = { 1, 1, 1, 0, -1 } ;
static int CaptureDR_ShiftDR[]   = { 0, -1 } ;
static int CaptureDR_Exit1DR[]   = { 1, -1 } ;
static int CaptureDR_PauseDR[]   = { 1, 0, -1 } ;
static int CaptureDR_Exit2DR[]   = { 1, 0, 1, -1 } ;
static int CaptureDR_UpdateDR[]  = { 1, 1, -1 } ;
static int CaptureDR_SelectIR[]  = { 1, 1, 1, 1, -1 } ;
static int CaptureDR_CaptureIR[] = { 1, 1, 1, 1, 0, -1 } ;
static int CaptureDR_ShiftIR[]   = { 1, 1, 1, 1, 0, 0, -1 } ;
static int CaptureDR_Exit1IR[]   = { 1, 1, 1, 1, 0, 1, -1 } ;
static int CaptureDR_PauseIR[]   = { 1, 1, 1, 1, 0, 1, 0, -1 } ;
static int CaptureDR_Exit2IR[]   = { 1, 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int CaptureDR_UpdateIR[]  = { 1, 1, 1, 1, 0, 1, 1, -1 } ;

```

FIG. 8b

```

static int ShiftDR_Reset[]      = { 1, 1, 1, 1, 1, -1 } ;
static int ShiftDR_Idle[]       = { 1, 1, 0, -1 } ;
static int ShiftDR_SelectDR[]   = { 1, 1, 1, -1 } ;
static int ShiftDR_CaptureDR[]  = { 1, 1, 1, 0, -1 } ;
static int ShiftDR_ShiftDR[]    = { 0, -1 } ;
static int ShiftDR_Exit1DR[]    = { 1, -1 } ;
static int ShiftDR_PauseDR[]    = { 1, 0, -1 } ;
static int ShiftDR_Exit2DR[]    = { 1, 0, 1, -1 } ;
static int ShiftDR_UpdateDR[]   = { 1, 1, -1 } ;
static int ShiftDR_SelectIR[]   = { 1, 1, 1, 1, -1 } ;
static int ShiftDR_CaptureIR[]  = { 1, 1, 1, 1, 0, -1 } ;
static int ShiftDR_ShiftIR[]    = { 1, 1, 1, 1, 0, 0, -1 } ;
static int ShiftDR_Exit1IR[]    = { 1, 1, 1, 1, 0, 1, -1 } ;
static int ShiftDR_PauseIR[]    = { 1, 1, 1, 1, 0, 1, 0, -1 } ;
static int ShiftDR_Exit2IR[]    = { 1, 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int ShiftDR_UpdateIR[]   = { 1, 1, 1, 1, 0, 1, 1, -1 } ;

static int Exit1DR_Reset[]      = { 1, 1, 1, 1, -1 } ;
static int Exit1DR_Idle[]       = { 1, 0, -1 } ;
static int Exit1DR_SelectDR[]   = { 1, 1, -1 } ;
static int Exit1DR_CaptureDR[]  = { 1, 1, 0, -1 } ;
static int Exit1DR_ShiftDR[]    = { 0, 1, 0, -1 } ;
static int Exit1DR_Exit1DR[]    = { 0, 1, 0, 1, -1 } ;
static int Exit1DR_PauseDR[]    = { 0, -1 } ;
static int Exit1DR_Exit2DR[]    = { 0, 1, -1 } ;
static int Exit1DR_UpdateDR[]   = { 1, -1 } ;
static int Exit1DR_SelectIR[]   = { 1, 1, 1, -1 } ;
static int Exit1DR_CaptureIR[]  = { 1, 1, 1, 0, -1 } ;
static int Exit1DR_ShiftIR[]    = { 1, 1, 1, 0, 0, -1 } ;
static int Exit1DR_Exit1IR[]    = { 1, 1, 1, 0, 1, -1 } ;
static int Exit1DR_PauseIR[]    = { 1, 1, 1, 0, 1, 0 } ;
static int Exit1DR_Exit2IR[]    = { 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int Exit1DR_UpdateIR[]   = { 1, 1, 1, 0, 1, 1, -1 } ;

```

FIG. 8c

```

static int PauseDR_Reset[]      = { 1, 1, 1, 1, 1, -1 } ;
static int PauseDR_Idle[]       = { 1, 1, 0, -1 } ;
static int PauseDR_SelectDR[]   = { 1, 1, 1, -1 } ;
static int PauseDR_CaptureDR[]  = { 1, 1, 1, 0, -1 } ;
static int PauseDR_ShiftDR[]    = { 1, 0, -1 } ;
static int PauseDR_Exit1DR[]    = { 1, 0, 1, -1 } ;
static int PauseDR_PauseDR[]    = { 0, -1 } ;
static int PauseDR_Exit2DR[]    = { 1, -1 } ;
static int PauseDR_UpdateDR[]   = { 1, 1, 1, 0, 1, 1, -1 } ;
static int PauseDR_SelectIR[]   = { 1, 1, 1, 1, -1 } ;
static int PauseDR_CaptureIR[]  = { 1, 1, 1, 1, 0, -1 } ;
static int PauseDR_ShiftIR[]    = { 1, 1, 1, 1, 0, 0, -1 } ;
static int PauseDR_Exit1IR[]    = { 1, 1, 1, 1, 0, 1, -1 } ;
static int PauseDR_PauseIR[]    = { 1, 1, 1, 1, 0, 1, 0, -1 } ;
static int PauseDR_Exit2IR[]    = { 1, 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int PauseDR_UpdateIR[]   = { 1, 1, 1, 1, 0, 1, 1, -1 } ;

static int Exit2DR_Reset[]      = { 1, 1, 1, 1, -1 } ;
static int Exit2DR_Idle[]       = { 1, 0, -1 } ;
static int Exit2DR_SelectDR[]   = { 1, 1, -1 } ;
static int Exit2DR_CaptureDR[]  = { 1, 1, 0, -1 } ;
static int Exit2DR_ShiftDR[]    = { 0, -1 } ;
static int Exit2DR_Exit1DR[]    = { 0, 1, -1 } ;
static int Exit2DR_PauseDR[]    = { 0, 1, 0, -1 } ;
static int Exit2DR_Exit2DR[]    = { 0, 1, 0, 1, -1 } ;
static int Exit2DR_UpdateDR[]   = { 1, 1, 0, 1, 1, -1 } ;
static int Exit2DR_SelectIR[]   = { 1, 1, 1, -1 } ;
static int Exit2DR_CaptureIR[]  = { 1, 1, 1, 0, -1 } ;
static int Exit2DR_ShiftIR[]    = { 1, 1, 1, 0, 0, -1 } ;
static int Exit2DR_Exit1IR[]    = { 1, 1, 1, 0, 1, -1 } ;
static int Exit2DR_PauseIR[]    = { 1, 1, 1, 0, 1, 0, -1 } ;
static int Exit2DR_Exit2IR[]    = { 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int Exit2DR_UpdateIR[]   = { 1, 1, 1, 0, 1, 1, -1 } ;

```

FIG. 8d

```

static int UpdateDR_Reset[]      = { 1, 1, 1, -1 } ;
static int UpdateDR_Idle[]       = { 0, -1 } ;
static int UpdateDR_SelectDR[]   = { 1, -1 } ;
static int UpdateDR_CaptureDR[]  = { 1, 0, -1 } ;
static int UpdateDR_ShiftDR[]    = { 1, 0, 0, -1 } ;
static int UpdateDR_Exit1DR[]    = { 1, 0, 1, -1 } ;
static int UpdateDR_PauseDR[]    = { 1, 0, 1, 0, -1 } ;
static int UpdateDR_Exit2DR[]    = { 1, 0, 1, 0, 1, -1 } ;
static int UpdateDR_UpdateDR[]   = { 1, 0, 1, 1, -1 } ;
static int UpdateDR_SelectIR[]   = { 1, 1, -1 } ;
static int UpdateDR_CaptureIR[]  = { 1, 1, 0, -1 } ;
static int UpdateDR_ShiftIR[]    = { 1, 1, 0, 0, -1 } ;
static int UpdateDR_Exit1IR[]    = { 1, 1, 0, 1, -1 } ;
static int UpdateDR_PauseIR[]    = { 1, 1, 0, 1, 0, -1 } ;
static int UpdateDR_Exit2IR[]    = { 1, 1, 0, 1, 0, 1, -1 } ;
static int UpdateDR_UpdateIR[]   = { 1, 1, 0, 1, 1, -1 } ;

static int SelectIR_Reset[]      = { 1, -1 } ;
static int SelectIR_Idle[]       = { 0, 1, 1, 0, -1 } ;
static int SelectIR_SelectDR[]   = { 0, 1, 1, 1, -1 } ;
static int SelectIR_CaptureDR[]  = { 0, 1, 1, 1, 0, -1 } ;
static int SelectIR_ShiftDR[]    = { 0, 1, 1, 1, 0, 0, -1 } ;
static int SelectIR_Exit1DR[]    = { 0, 1, 1, 1, 0, 1, -1 } ;
static int SelectIR_PauseDR[]    = { 0, 1, 1, 1, 0, 1, 0, -1 } ;
static int SelectIR_Exit2DR[]    = { 0, 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int SelectIR_UpdateDR[]   = { 0, 1, 1, 1, 0, 1, 1, -1 } ;
static int SelectIR_SelectIR[]   = { 0, 1, 1, 1, 1, -1 } ;
static int SelectIR_CaptureIR[]  = { 0, 1, 1, 1, 1, 0, -1 } ;
static int SelectIR_ShiftIR[]    = { 0, 1, 1, 1, 1, 0, 0, -1 } ;
static int SelectIR_Exit1IR[]    = { 0, 1, 1, 1, 1, 0, 1, -1 } ;
static int SelectIR_PauseIR[]    = { 0, 1, 1, 1, 1, 0, 1, 0, -1 } ;
static int SelectIR_Exit2IR[]    = { 0, 1, 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int SelectIR_UpdateIR[]   = { 0, 1, 1, 1, 1, 0, 1, 1, -1 } ;

```

FIG. 8e

```

static int CaptureIR_Reset[]      = { 1, 1, 1, 1, 1, -1 } ;
static int CaptureIR_Idle[]       = { 1, 1, 0, -1 } ;
static int CaptureIR_SelectDR[]  = { 1, 1, 1, -1 } ;
static int CaptureIR_CaptureDR[] = { 1, 1, 1, 0, -1 } ;
static int CaptureIR_ShiftDR[]   = { 1, 1, 1, 0, 0, -1 } ;
static int CaptureIR_Exit1DR[]   = { 1, 1, 1, 0, 1, -1 } ;
static int CaptureIR_PauseDR[]   = { 1, 1, 1, 0, 1, 0, -1 } ;
static int CaptureIR_Exit2DR[]   = { 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int CaptureIR_UpdateDR[]  = { 1, 1, 1, 0, 1, 1, -1 } ;
static int CaptureIR_SelectIR[]  = { 1, 1, 1, 1, -1 } ;
static int CaptureIR_CaptureIR[] = { 1, 1, 1, 1, 0, -1 } ;
static int CaptureIR_ShiftIR[]   = { 1, 1, 1, 1, 0, 0, -1 } ;
static int CaptureIR_Exit1IR[]   = { 1, 1, 1, 1, 0, 1, -1 } ;
static int CaptureIR_PauseIR[]   = { 1, 1, 1, 1, 0, 1, 0, -1 } ;
static int CaptureIR_Exit2IR[]   = { 1, 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int CaptureIR_UpdateIR[]  = { 1, 1, 1, 1, 0, 1, 1, -1 } ;

static int ShiftIR_Reset[]       = { 1, 1, 1, 1, 1, -1 } ;
static int ShiftIR_Idle[]        = { 1, 1, 0, -1 } ;
static int ShiftIR_SelectDR[]    = { 1, 1, 1, -1 } ;
static int ShiftIR_CaptureDR[]   = { 1, 1, 1, 0, -1 } ;
static int ShiftIR_ShiftDR[]     = { 1, 1, 1, 0, 0, -1 } ;
static int ShiftIR_Exit1DR[]     = { 1, 1, 1, 0, 1, -1 } ;
static int ShiftIR_PauseDR[]     = { 1, 1, 1, 0, 1, 0, -1 } ;
static int ShiftIR_Exit2DR[]     = { 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int ShiftIR_UpdateDR[]    = { 1, 1, 1, 0, 1, 1, -1 } ;
static int ShiftIR_SelectIR[]    = { 1, 1, 1, 1, -1 } ;
static int ShiftIR_CaptureIR[]   = { 1, 1, 1, 1, 0, -1 } ;
static int ShiftIR_ShiftIR[]     = { 0, -1 } ;
static int ShiftIR_Exit1IR[]     = { 1, -1 } ;
static int ShiftIR_PauseIR[]     = { 1, 0, -1 } ;
static int ShiftIR_Exit2IR[]     = { 1, 0, 1, -1 } ;
static int ShiftIR_UpdateIR[]    = { 1, 1, 1, 1, 0, 1, 1, -1 } ;

```

FIG. 8f

```

static int Exit1IR_Reset[]      = { 1, 1, 1, 1, -1 } ;
static int Exit1IR_Idle[]      = { 1, 0, -1 } ;
static int Exit1IR_SelectDR[]  = { 1, 1, -1 } ;
static int Exit1IR_CaptureDR[] = { 1, 1, 0, -1 } ;
static int Exit1IR_ShiftDR[]   = { 1, 1, 0, 0, -1 } ;
static int Exit1IR_Exit1DR[]   = { 1, 1, 0, 1, -1 } ;
static int Exit1IR_PauseDR[]   = { 1, 1, 0, 1, 0, -1 } ;
static int Exit1IR_Exit2DR[]   = { 1, 1, 0, 1, 0, 1, -1 } ;
static int Exit1IR_UpdateDR[]  = { 1, 1, 0, 1, 1, -1 } ;
static int Exit1IR_SelectIR[]  = { 1, 1, 1, -1 } ;
static int Exit1IR_CaptureIR[] = { 1, 1, 1, 0, -1 } ;
static int Exit1IR_ShiftIR[]   = { 0, 1, 0, -1 } ;
static int Exit1IR_Exit1IR[]   = { 0, 1, 0, 1, -1 } ;
static int Exit1IR_PauseIR[]   = { 0, -1 } ;
static int Exit1IR_Exit2IR[]   = { 0, 1, -1 } ;
static int Exit1IR_UpdateIR[]  = { 1, -1 } ;

static int PauseIR_Reset[]     = { 1, 1, 1, 1, 1, -1 } ;
static int PauseIR_Idle[]      = { 1, 1, 0, -1 } ;
static int PauseIR_SelectDR[]  = { 1, 1, 1, -1 } ;
static int PauseIR_CaptureDR[] = { 1, 1, 1, 0, -1 } ;
static int PauseIR_ShiftDR[]   = { 1, 1, 1, 0, 0, -1 } ;
static int PauseIR_Exit1DR[]   = { 1, 1, 1, 0, 1, -1 } ;
static int PauseIR_PauseDR[]   = { 1, 1, 1, 0, 1, 0, -1 } ;
static int PauseIR_Exit2DR[]   = { 1, 1, 1, 0, 1, 0, 1, -1 } ;
static int PauseIR_UpdateDR[]  = { 1, 1, 1, 0, 1, 1, -1 } ;
static int PauseIR_SelectIR[]  = { 1, 1, 1, 1, -1 } ;
static int PauseIR_CaptureIR[] = { 1, 1, 1, 1, 0, -1 } ;
static int PauseIR_ShiftIR[]   = { 1, 0, -1 } ;
static int PauseIR_Exit1IR[]   = { 1, 0, 1, -1 } ;
static int PauseIR_PauseIR[]   = { 0, -1 } ;
static int PauseIR_Exit2IR[]   = { 1, -1 } ;
static int PauseIR_UpdateIR[]  = { 1, 1, -1 } ;

```

FIG. 8g

```

static int Exit2IR_Reset[]      = { 1, 1, 1, 1, -1 } ;
static int Exit2IR_Idle[]      = { 1, 0, -1 } ;
static int Exit2IR_SelectDR[]  = { 1, 1, -1 } ;
static int Exit2IR_CaptureDR[] = { 1, 1, 0, -1 } ;
static int Exit2IR_ShiftDR[]   = { 1, 1, 0, 0, -1 } ;
static int Exit2IR_Exit1DR[]   = { 1, 1, 0, 1, -1 } ;
static int Exit2IR_PauseDR[]   = { 1, 1, 0, 1, 0, -1 } ;
static int Exit2IR_Exit2DR[]   = { 1, 1, 0, 1, 0, 1, -1 } ;
static int Exit2IR_UpdateDR[]  = { 1, 1, 0, 1, 1, -1 } ;
static int Exit2IR_SelectIR[]  = { 1, 1, 1, -1 } ;
static int Exit2IR_CaptureIR[] = { 1, 1, 1, 0, -1 } ;
static int Exit2IR_ShiftIR[]   = { 0, -1 } ;
static int Exit2IR_Exit1IR[]   = { 0, 1, -1 } ;
static int Exit2IR_PauseIR[]   = { 0, 1, 0, -1 } ;
static int Exit2IR_Exit2IR[]   = { 0, 1, 0, 1, -1 } ;
static int Exit2IR_UpdateIR[]  = { 1, -1 } ;

```

```

static int UpdateIR_Reset[]    = { 1, 1, 1, -1 } ;
static int UpdateIR_Idle[]     = { 0, -1 } ;
static int UpdateIR_SelectDR[] = { 1, -1 } ;
static int UpdateIR_CaptureDR[] = { 1, 0, -1 } ;
static int UpdateIR_ShiftDR[]  = { 1, 0, 0, -1 } ;
static int UpdateIR_Exit1DR[]  = { 1, 0, 1, -1 } ;
static int UpdateIR_PauseDR[]  = { 1, 0, 1, 0 } ;
static int UpdateIR_Exit2DR[]  = { 1, 0, 1, 0, 1, -1 } ;
static int UpdateIR_UpdateDR[] = { 1, 0, 1, 1, -1 } ;
static int UpdateIR_SelectIR[] = { 1, 1, -1 } ;
static int UpdateIR_CaptureIR[] = { 1, 1, 0, -1 } ;
static int UpdateIR_ShiftIR[]  = { 1, 1, 0, 0, -1 } ;
static int UpdateIR_Exit1IR[]  = { 1, 1, 0, 1, -1 } ;
static int UpdateIR_PauseIR[]  = { 1, 1, 0, 1, 0, -1 } ;
static int UpdateIR_Exit2IR[]  = { 1, 1, 0, 1, 0, 1, -1 } ;
static int UpdateIR_UpdateIR[] = { 1, 1, 0, 1, 1, -1 } ;

```

FIG. 8h

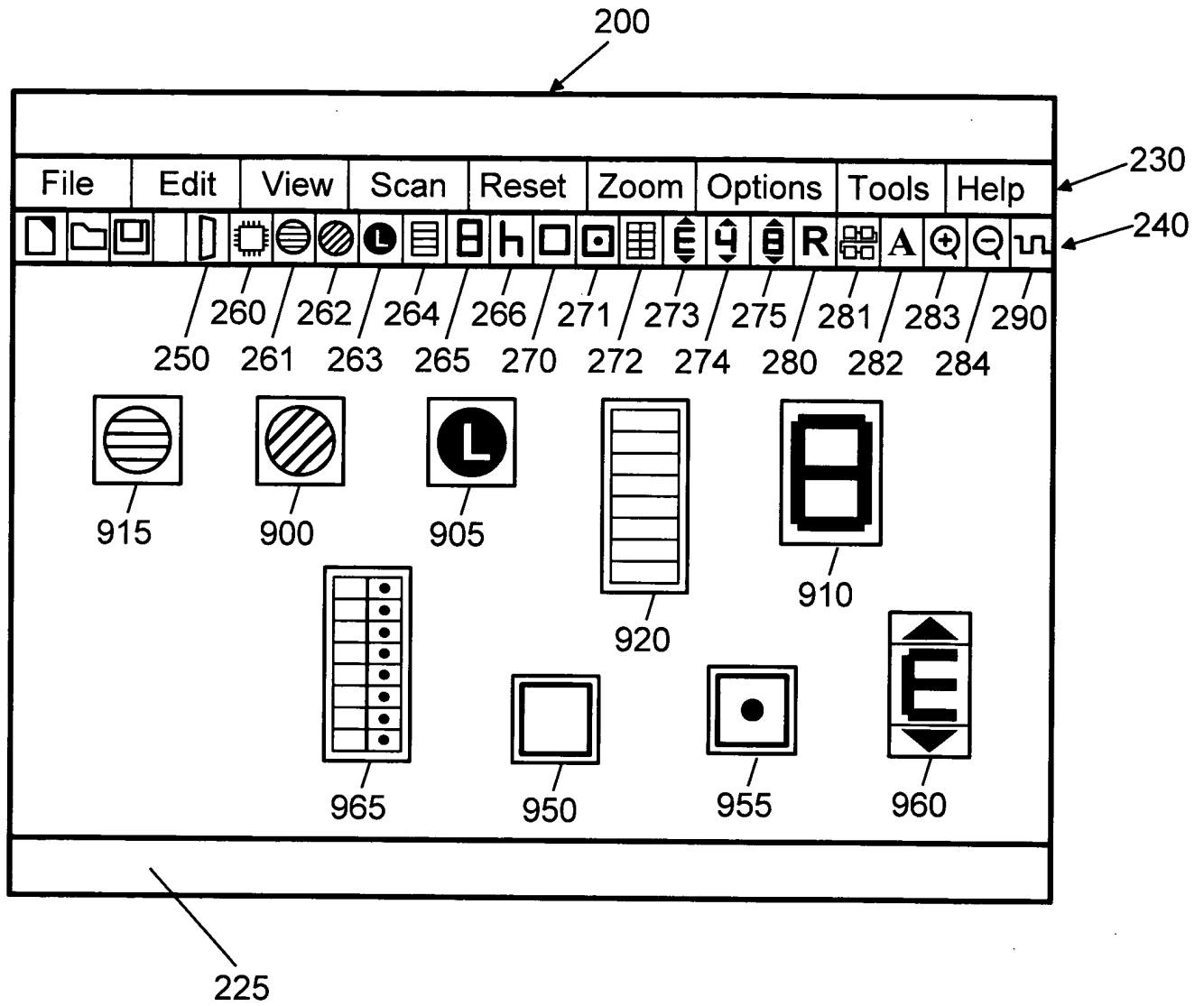


FIG. 9